# Stellingen

Behorende bij het proefschrift:

## Caprolactam from Renewable Resources: Catalytic Conversion of 5-Hydroxymethylfurfural into Caprolactone

Teddy

1. The use of extremely high pressures (380 bar) for the reaction of 5-hydroxymethylfurfural (HMF) to 1,6-hexanediol is not necessary.

   *T. Utne, J. D. Garber, R. E. Jones, US Patent 3083236,* ***1963****.*

2. Yield data without information on reactant conversion or product selectivity makes it difficult to judge the potential of a catalytic transformation.

   *T. Utne, J. D. Garber, R. E. Jones, US Patent 3083236,* ***1963****.*

3. The catalytic hydrogenation of HMF to tetrahydrofuran-dimethanol (THF-dimethanol) using Raney nickel as described by Sutherland *et al.* is better described as a stoichiometric rather than a catalytic reaction.

   *T. J. Connolly, J. L. Considine, Z. Ding, B. Forsatz, M. N. Jennings, M. F. MacEwan, K. M. McCoy, D. W. Place, A. Sharma, K. Sutherland, Org. Process Res. Dev.* ***2010****, 14, 459.*

4. The reported 90% yield of THF-dimethanol using Raney nickel catalysts after 1 h reaction time is not in line with the proposed kinetic model.

   *V. Schiavo, G. Descotes, J. Mentech, Bull. Soc. Chim. Fr.* ***1991****, 128, 704.*

5. The addition of one drop of HCl, as described in the experimental procedure for a catalytic transfer hydrogenation, is not a very exact number and may lead to erroneous results.

   *R. C. Mebane, A. J. Mansfield, Synth. Commun.* ***2005****, 35, 3083.*

6. The oxidation of 1,6-hexanediol using 80% nitric acid as reported by Nikolaeva *et al*. does not comply with the green chemistry and technology principles as large amounts of nitrogen dioxide are produced.

   *N. V. Svetlakov, V. G. Nikitin, E. A. Nikolaeva, Russ. J. Org. Chem.* ***2007****, 43, 773.*

7. *Dimana ada kemauan, di situ ada jalan (*Where there is a will, there is a way).

   *Indonesian proverb.*